



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,858	06/27/2003	Yong Sung Ham	049128-5113	5824
9629	7590	10/26/2005	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			EISEN, ALEXANDER	
			ART UNIT	PAPER NUMBER
			2674	

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,858

Applicant(s)

HAM, YONG SUNG

Examiner

Alexander Eisen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 11 is/are allowed.
- 6) ☒ Claim(s) 6,8,9,12,16 and 17 is/are rejected.
- 7) ☒ Claim(s) 7,10,13-15 and 18-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/2/03

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 6 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Usui et al., hereinafter Usui, US 5,844,533.

With respect to claim 12 Usui discloses a driving apparatus of a liquid crystal display device, comprising a memory 77 (FIG. 8) for delaying received current data; a lookup table 100 (FIG. 9) comparing the delayed received current data with the received current data; and a controller 51 for differently controlling a supply time of the data in accordance with a comparison result of the data (see FIGS. 4, 6, 8, 9; col. 1, line 57 – col. 2, line 3; col. 6, line 41 – col. 7, line 18; col. 9, ll. 22-26).

4. Claims 8 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mori, JP 06-046357.

With respect to claim 8 Mori discloses a driving method of a liquid crystal display device, comprising the steps of receiving current data at an input A/D converter 4 (FIG. 1); delaying the current data at the memory 11; comparing the delayed current data with the received

Art Unit: 2674

current data by the comparator 12; selecting any one of an uppermost gray level data and a lowermost gray level data among gray level values of the data in accordance with a comparison result; and supplying the data selected between the uppermost gray level data and the lowermost gray level data to a liquid crystal display panel of the liquid crystal display device (see FIGS. 2-3; paragraphs [0006], [0010-22]).

As pertaining to claim 16, Mori discloses a driving apparatus of a liquid crystal display device, comprising a memory 11 delaying received current data; a lookup table for comparing the delayed received current data with the received current data; a selector for selecting any one of an uppermost gray level data and a lowermost gray level data among gray levels of the data in accordance with a comparison result; and a data supplier for supplying the data selected from the uppermost gray level data and the lowermost gray level data to a liquid crystal display panel of the liquid crystal display device (the comparison circuit 12 selects and outputs the data base on the result of comparison and therefore at least present a table having two gray level values, as required by claim, the highest and the lowest – see the abstract, for example, and paragraph [0012]).

As pertaining to claims 9 and 17, as can be seen from FIGS. 2 and 3, the application time of data is different depending on comparison result (pulse of different widths, 0, 4 and 7 are applied based on the result of comparison).

Allowable Subject Matter

5. Claims 1-5 and 11 are allowed.
6. The following is an examiner's statement of reasons for allowance: none of the references, either singularly or in combination, teach or fairly suggest a display apparatus and

Art Unit: 2674

associated method therewith, comprising a liquid crystal display panel of the liquid crystal display device; a lookup table for storing a transition time on a basis of a light transmittance versus time characteristic when each gray level is changed to another gray level in the liquid crystal display panel; and a time modulator for modulating a supply time of data supplied to the liquid crystal display panel in accordance with the transition time.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Claims 7, 10, 13-15 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: no prior art has been found that teaches or suggests a modification of a combination with another prior art so as to arrive to the limitations of dependent claims above in the scope of parent claims; none of the references teach or suggest the step of controlling the supply time of the data differently comprises: deriving a light transmittance vs. time characteristic when each gray level is changed to another gray level in a liquid crystal display panel of the liquid crystal display device; deriving an upward transition time from a transmittance corresponding to a middle gray level value to a transmittance corresponding to an uppermost gray level value in an expressible gray level range of the liquid crystal display panel; deriving a downward transition time from the transmittance corresponding to the middle gray level value to a transmittance corresponding to a

Art Unit: 2674

lowermost gray level value in the expressible gray level range; selecting any one of the upward transition time and the downward transition time in accordance with the comparison result of the data; and modulating a supply time of the data in accordance with a transition time selected from the upward transition time and the downward transition time; or that the lookup table stores: an upper transition time from a transmittance corresponding to a middle gray level value to a transmittance corresponding to an uppermost gray level value in an expressible gray level range; and a downward transition time from the transmittance corresponding to the middle gray level value to a transmittance corresponding to a lowermost gray level value in the expressible gray level range.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawabe et al., US 2002/0024481 A1, discloses a look-up table storing transitional times for various gray scale transition levels.

Furuhashi et al., US 6,556,180 B1, discloses LCD driving method, including current and previous frames comparison and driving the display with corrected signals based on the result of comparison.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (571) 272-7687. The examiner can normally be reached on M-F (9:00-5:00).

Art Unit: 2674

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexander Eisen
Primary Examiner
Art Unit 2674

23 October 2005